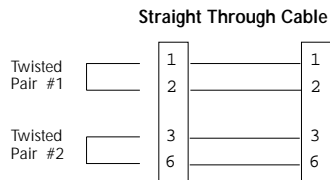


MEDIA CONVERTER TECHNICAL SPECIFICATIONS

Standards	IEEE 802.3u	
Environment	Temperature:	0-40°C (32° to 104° F)
	Humidity	10-90%, non condensing
	Altitude	0-10,000 feet
Warranty	Five years	

Straight-through Cable Configuration

Straight-through/crossover 100BASE-TX requirements are satisfied using the MDI/MDI-X switch with straight-through cable.



The two active pairs in a 100BASE-TX network are pins 1 & 2 and pins 3 & 6. Use only dedicated wire pairs (such as blue/white & white/blue, orange/white & white/orange) for the active pins.



CAUTION: RJ connectors are NOT INTENDED FOR CONNECTION TO THE PUBLIC TELEPHONE NETWORK. Failure to observe this caution could result in damage to the public telephone network.

Der Anschluss dieses Gerätes an ein öffentliches Telekommunikationsnetz in den EG-Mitgliedstaaten verstößt gegen die jeweiligen einzelstaatlichen Gesetze zur Anwendung der Richtlinie 91/263/EWG zur Angleichung der Rechtsvorschriften der Mitgliedstaaten über Telekommunikationsendeinrichtungen einschliesslich der gegenseitigen Anerkennung ihrer Konformität.

Compliance Information

UL Listed
C-UL Listed (Canada)
CISPR/EN55022 Class B

FCC Regulations

This equipment has been tested and found to comply with the limits for a class B digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at the user's own expense.

Canadian Regulations

This digital apparatus does not exceed the Class B limits for radio noise for digital apparatus set out on the radio interference regulations of the Canadian Department of Communications.

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Minneapolis, MN 55344 USA

100BASE-TX/100BASE-FX Slide-In-Module Media Converters

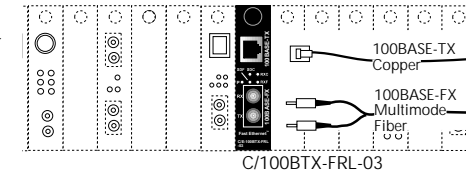
C/E-100BTX-FRL-03, C/E-100BTX-FRL-03(SC), C/E-100BTX-FRL-03(SM)

USER'S GUIDE

The TRANSITION Networks 100BASE-TX to 100BASE-FX slide-in-module media converters, C/E-100BTX-FRL-03, C/E-100BTX-FRL-03(SC) and C/E-100BTX-FRL-03(SM), which are designed to be installed in the TRANSITION Networks Media Conversion Center, E-MCC-1600, connect 100BASE-TX unshielded twisted pair cable to 100BASE-FX *multimode* OR *singlemode* fiber-optic cable. All media converters function in half-duplex mode or, when connected to devices capable of full-duplex connectivity, in full-duplex mode. An MDI/MDI-X switch allows *straight-through* twisted-pair cable to be used for *crossover* 100BASE-TX connections.

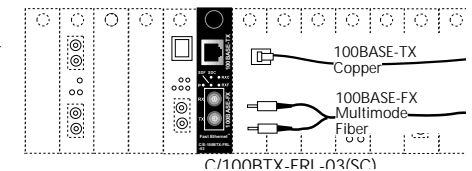
C/E-100BTX-FRL-03

Provides an RJ-45 twisted pair 100BASE-TX connector and a set of RX (receive) and TX (transmit) ST 100BASE-FX connectors to *multimode* fiber-optic cable.



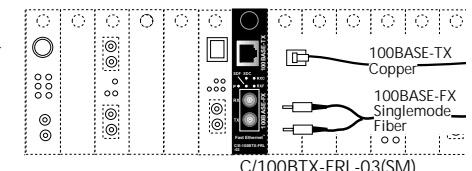
C/E-100BTX-FRL-03(SC)

Provides an RJ-45 twisted pair 100BASE-TX connector and an RX (receive) and TX (transmit) SC 100BASE-FX connector to *multimode* fiber-optic cable.

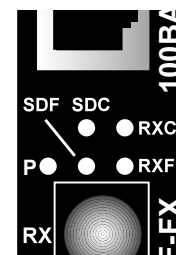


C/E-100BTX-FRL-03(SM)

Provides an RJ-45 twisted pair 100BASE-TX connector and an RX (receive) and TX (transmit) SC 100BASE-FX connector to *singlemode* fiber-optic cable.



Status LEDs



- Power** Illuminated green LED indicates connection to external AC power.
- SDF** Signal Detect/Fiber: Steady green LED indicates fiber port is connected to device.
- SDC** Signal Detect/Copper: Steady green LED indicates RJ-45 port is connected to device.
- RXC** Receive/Copper: Flashing green LED indicates packets are seen on RJ-45 port.
- RXF** Receive/Fiber: Flashing green LED indicates packets are seen on fiber port.

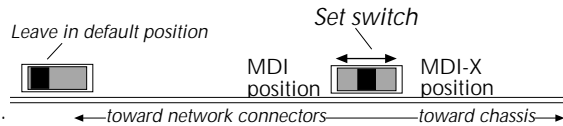
100BASE-FX CABLE CONNECTIONS

- Be certain that the correct **mode and wavelength** fiber cable is used for single-mode and/or for multimode fiber cable installations.

100BASE-TX CABLE CONNECTIONS

- Be certain that the MDI/MDI-X switch located *ON the Slide-In-Module circuit board* is set correctly *before installing Slide-In-Module in Media Conversion Center*. Cable connections between a hub and the media converter require the MDI/MDI-X switch to be set to MDI. Cable connections between the media converter and a terminal, transceiver or NIC require the switch to be set to MDI-X.

- Using small flatblade screwdriver or similar tool, set MDI/MDI-X switch position for site installation.



ETHERNET CABLE SPECIFICATIONS

The physical characteristics of the media cable must meet or exceed IEEE 802.3u 100BASE-TX and 100BASE-FX specifications.

100BASE-TX CABLE SPECIFICATIONS

Category 5 wire or better is required. Either shielded twisted pair (STP) or unshielded twisted pair (UTP) can be used. Use a straight-through cable configuration (*see back page*).

CATEGORY 5:

Gauge	24 to 22 AWG
Attenuation	20 dB/1000' @ 10 MHz
Impedance	100 Ω \pm 10% @ 10 MHz
Maximum Cable Distance:	100 meters (330 feet)

100BASE-FX CABLE SPECIFICATIONS

SINGLEMODE

Fiber-optic Cable Recommended:	9 μ m singlemode fiber
Fiber-optic Transmitter Power:	min: -15.0 dBm max: -8.0 dBm
Fiber-optic Receiver Sensitivity:	min: -32.5 dBm max: -8.0 dBm
Wavelength:	1300nm
Bit error rate:	$\leq 10^{-9}$
Maximum Cable Distance:	20 kilometers

MULTIMODE

Fiber-optic Cable Recommended:	62.5 / 125 μ m multimode fiber
Optional:	100 / 140 μ m multimode fiber 85 / 125 μ m multimode fiber 50 / 125 μ m multimode fiber
Fiber-optic Transmitter Power:	min: -19.0 dBm max: -14.0 dBm
Fiber-optic Receiver Sensitivity:	min: -32.5 dBm max: -14.0 dBm
Wavelength:	1300nm
Bit error rate:	$\leq 10^{-9}$
Maximum Cable Distance:	2 kilometers

Installing Slide-In-Module(s)

C/E-100BTX-FRL-03

CAUTION: Wear a grounding device and observe electrostatic discharge precautions when installing Media Converter Slide-in-Module(s) in the 16-Slot Media Conversion Center. Failure to observe this caution could result in damage to, and subsequent failure of, the Media Converter Slide-in-Module(s).

NOTE: Media Converter Slide-in-Modules can be installed in any installation slot, in any order.

To install the Media Converter Slide-in-Module in the E-MCC-1600 chassis:

- Remove Media Converter Slide-in-Module protective plate from selected installation slot by removing two screws that secure plate to front of E-MCC-1600. Retain one installation screw.
- Carefully slide Media Converter Slide-in-Module into installation slot, aligning Media Converter Slide-in-Module with installation guides. NOTE: Ensure that the Media Converter Slide-in-Module is firmly seated against the backplane.
- Secure Slide-in-Module by installing retained installation screw.

Troubleshooting

- Is the power LED on the media converter illuminated?

NO

- Is the Slide-In-Module properly connected to the Media Conversion Center chassis backplane?
- Is the Power Supply Module properly connected both to the Media Conversion Center chassis backplane and to the AC outlet?
- Contact Technical Support at (800) 260-1312/ (800) LAN-WANS.

YES

- Proceed to step 2.

- Is the 100BASE-TX Link LED illuminated?

NO

- Check UTP cables for proper connection and pin assignment. (See above.)
- Contact Technical Support at (800) 260-1312/ (800) LAN-WANS.

YES

- Proceed to step 3.

- Is the fiber Link LED illuminated?

NO

- Check fiber cables for proper connection.
- Verify that TX and RX cables on media converter are connected to RX and TX ports, respectively, on the other 100BASE-FX device.
- Refer to Tech Tips available at: <http://www.transition.com>
- Contact Technical Support at (800) 260-1312/ (800) LAN-WANS.

YES

- Contact Technical Support at (800) 260-1312/ (800) LAN-WANS.